

"What is the politically correct phrase for 'detention'?"

Solve the systems of equations using the addition method.

The answer to each problem will match a letter that will allow you to figure out the joke.

$$\begin{array}{r} 1. \quad 3x - 4y = 13 \\ + \quad 2x + 4y = 2 \\ \hline 5x = 15 \end{array}$$

$$\begin{array}{r} 5x = 15 \\ \hline 5 \quad 5 \\ \hline x = 3 \end{array}$$

$$\begin{array}{r} 2(3) + 4y = 2 \\ 6 + 4y = 2 \\ -6 \quad -6 \\ \hline 4y = -4 \end{array}$$

$$\begin{array}{r} 4y = -4 \\ \hline 4 \quad 4 \\ \hline y = -1 \end{array}$$

W. (12,6)

$$1(3, -1)$$

T. (2,-5) **4**

O. (3,4)

$$2(23, 6)$$

L. (-6,7) **5**

Y. (3,-1) **1**

$$3(2, 2)$$

U. (-5,2)

N. (6,8)

$$4(2, -5)$$

I. (23,6) **2**

E. (21,-3) **6**

$$5(-6, 7)$$

S. (21,5)

X. (4,-2) **8**

$$6(21, -3)$$

D. (12,43) **7**

A. (2,2) **3**

$$7(12, 43)$$

C. No Solution

M. (22,2)

H. (3,43)

$$8(4, -2)$$

$$\begin{array}{r} 2. \quad x - 3y = 5 \\ + \quad -x + 5y = 7 \\ \hline 2y = 12 \end{array}$$

$$\begin{array}{r} 2y = 12 \\ \hline 2 \quad 2 \\ \hline y = 6 \end{array}$$

$$\begin{array}{r} x - 3(6) = 5 \\ x - 18 = 5 \\ +18 \quad +18 \\ \hline x = 23 \end{array}$$

$$\begin{array}{r} 6 = 3x \\ \hline 2 = x \end{array}$$

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$$5(-6, 7)$$

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$$6(21, -3)$$

D. (12,43) **7**

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H. (3,43)

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$$\begin{array}{r} 3. \quad y = -3x + 8 \\ + \quad y = 3x - 4 \\ \hline 2y = 4 \end{array}$$

$$\begin{array}{r} 2y = 4 \\ \hline 2 \quad 2 \\ \hline y = 2 \end{array}$$

$$\begin{array}{r} 2 = 3x - 4 \\ +4 \quad +4 \\ \hline 6 = 3x \end{array}$$

$$\begin{array}{r} 6 = 3x \\ \hline 2 = x \end{array}$$

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$$\begin{array}{r} 4. \quad 2x - 3y = 19 \\ + \quad 18x + 3y = 21 \\ \hline 20x = 40 \end{array}$$

$$\begin{array}{r} 20x = 40 \\ \hline 20 \quad 20 \\ \hline x = 2 \end{array}$$

$$\begin{array}{r} 2(2) - 3y = 19 \\ 4 - 3y = 19 \\ -4 \quad -4 \\ \hline -3y = 15 \end{array}$$

$$\begin{array}{r} -3y = 15 \\ \hline -3 \quad -3 \\ \hline y = -5 \end{array}$$

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$$\begin{array}{r} 5. \quad x + 3y = 15 \\ - \quad (x + y = 1) \\ \hline 2y = 14 \end{array}$$

$$\begin{array}{r} 2y = 14 \\ \hline 2 \quad 2 \\ \hline y = 7 \end{array}$$

$$\begin{array}{r} x + 7 = 1 \\ -7 \quad -7 \\ \hline x = -6 \end{array}$$

$$\begin{array}{r} 6 = 3x \\ \hline 2 = x \end{array}$$

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$$6(21, -3)$$

D. (12,43) **7**

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H. (3,43)

$$8(4, -2)$$

$$\begin{array}{r} 6. \quad x - 7y = 42 \\ - \quad (x + 6y = 3) \\ \hline -13y = 39 \end{array}$$

$$\begin{array}{r} -13y = 39 \\ \hline -13 \quad -13 \\ \hline y = -3 \end{array}$$

$$\begin{array}{r} x - 7(-3) = 42 \\ x + 21 = 42 \\ -21 \quad -21 \\ \hline x = 21 \end{array}$$

$$\begin{array}{r} x = 21 \\ \hline x = 21 \end{array}$$

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$$5(-6, 7)$$

S. (21,5)

X. (4,-2) **8**

$$6(21, -3)$$

D. (12,43) **7**

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$$7(12, 43)$$

C. No Solution

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H. (3,43)

$$8(4, -2)$$

$$\begin{array}{r} 7. \quad y = 4x - 5 \\ - \quad (y = 3x + 7) \\ \hline 0 = x - 12 \end{array}$$

$$\begin{array}{r} 0 = x - 12 \\ +12 \quad +12 \\ \hline 12 = x \end{array}$$

$$\begin{array}{r} y = 4(12) - 5 \\ y = 48 - 5 \\ y = 43 \end{array}$$

$$\begin{array}{r} y = 43 \\ \hline y = 43 \end{array}$$

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$$6(21, -3)$$

D. (12,43) **7**

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H. (3,43)

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$$\begin{array}{r} 8. \quad 6x + 4y = 16 \\ - \quad (-2x + 4y = -16) \\ \hline 8x = 32 \end{array}$$

$$\begin{array}{r} 8x = 32 \\ \hline 8 \quad 8 \\ \hline x = 4 \end{array}$$

$$\begin{array}{r} 6(4) + 4y = 16 \\ 24 + 4y = 16 \\ -24 \quad -24 \\ \hline 4y = -8 \\ \hline y = -2 \end{array}$$

$$\begin{array}{r} y = -2 \\ \hline y = -2 \end{array}$$

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D. (12,43) **7**

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C. No Solution

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H. (3,43)

$$8(4, -2)$$

E X I T D E L A Y E D
6 8 2 4 7 6 5 3 1 6 7